

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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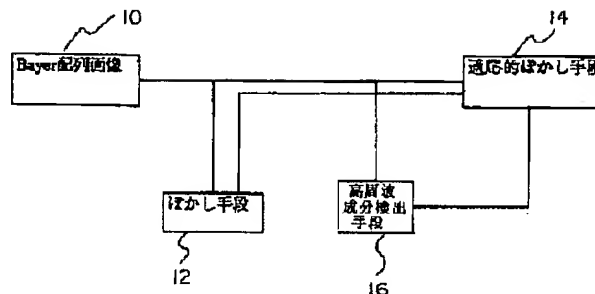
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TITLE : DEVICE AND METHOD FOR  
ELIMINATING NOISE ON EACH LINE  
OF IMAGE SENSOR



ABSTRACT : PROBLEM TO BE SOLVED: To provide the device and method which effectively eliminates noise on each line in an image photographed by a CCD having color filters with Bayer array.

SOLUTION: A gradation means 12, for obtaining the gradation amount of a noted pixel, obtains a difference between means pixel value of the noted pixel and surrounding pixels and a pixel value of the noted pixel. On the other hand, a high frequency component detection means 16 applies a Laplacian filter formed with four surrounding pixels (upper/lower/left/right) to the noted pixel to detect high frequency components of the noted pixel. The high frequency components are detected without noise effects on each line by using the filter formed with the four surrounding pixels. Thus, an adaptive gradation amount added to the noted pixel, based on an absolute value of the high frequency components detected by the high frequency component detection means 16, efficiently eliminates noises on each line.

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